

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	6	mitica near manu.in.	US-PGPUB; USPAT	OR	ON	2006/12/18 12:21
S2	14296	microsoft.as.	US-PGPUB; USPAT	OR	ON	2006/12/18 12:21
S3	163	S2 and (model\$4 and code).clm.	US-PGPUB; USPAT	OR	ON	2006/12/18 12:21
S4	3	S3 and (code adj element).clm.	US-PGPUB; USPAT	OR	ON	2006/12/18 12:23
S5	398	S2 and (function\$4 and model\$4).clm.	US-PGPUB; USPAT	OR	ON	2006/12/18 12:24
S6	3	S5 and (code adj (element or block)).clm.	US-PGPUB; USPAT	OR	ON	2006/12/18 12:24
S7	2324	717/104-113.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 12:25
S8	1011	S7 and (model\$4 and (user adj interface))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 12:26
S9	30	S8 and (code adj element)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 12:26
S10	10	("20020016954"   "5325533"   "5428792"   "5778227"   "6182160"   "6269473"   "6499137"   "6526566"   "6581203"   "6690961").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/12/18 12:35
S12	396	717/109.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 12:39

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S13	97	("5892825" "5940590" "6047060" "6058460" "4782325" "4829427" "4833308" "4914437" "5463838" "5590331" "5593185" "5608395" "5704189" "5933635" "5958051" "5977986" "6021491" "6065021" "6195635" "6240547" "4390145" "4394654" "4761543" "4821208" "4849880" "4915205" "4920488" "4949510" "4994987" "5005152" "5267304" "5276813" "5355493" "5371895" "5379377" "5382784" "5408665" "5418954" "5437038" "5442342" "5452099" "5485569" "5490217" "5505494" "5581261" "5583801" "5635012" "5635940" "5640559" "5655121" ).pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:08
S14	41390	model\$4 and ((creat\$4 or implement\$4 or develop\$4 or generat\$4) near3 code)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:12
S15	12246	S14 and (program\$4 near3 language)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:13
S16	7360	S15 and ((user adj interface) or (visual\$4 near3 interface))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:16
S17	2010	S16 and ((graphic\$4 or visual\$4) near represent\$5)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:18
S18	894	S17 and (source adj code)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:18

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S19	591	S18 and c++	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:19
S20	562	S19 and "c#"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:19
S21	238	S20 and ((visual adj basic) or vb)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:19
S22	74	S21 and "717".clas.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:20
S23	67	S22 and (@pd<"20031124" or @ad<"20031124" or @prad<"20031124" or @rlad<"20031124")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:20
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S25	2	"6199195".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:54
S26	2	"6038393".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 15:57

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S27	2	"20020104071".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 16:28
S28	2	"5774728".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 16:29
S29	84	("5499371"   "5706502"   "5761499"   "5848273"   "5875333"   "5890158"   "6018627").PN. OR ("6199195").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/12/18 16:39



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### 1 [A strategy for mapping from function-oriented software models to object-oriented software models](#)



Joseph George, Bradley D. Carter

March 1996 **ACM SIGSOFT Software Engineering Notes**, Volume 21 Issue 2

Publisher: ACM Press

Full text available: [pdf\(967.06 KB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

Because of being in transition or because of choice, many software development environments make use of both the function-oriented and object-oriented approaches in their software development process. In some cases, object-oriented and function-oriented approaches are used in the development of the same system, such as when using function-oriented analysis with object-oriented design, necessitating a transition or mapping from one model to the other. This paper reviews the issues involved in map ...

### 2 [Towards a Model for Hardware and Software Functional Partitioning](#)

Frank Vahid, Thuy DM Le

March 1996 **Proceedings of the 4th International Workshop on Hardware/Software Co-Design**

Publisher: IEEE Computer Society

Full text available: [pdf\(914.27 KB\)](#)[Publisher Site](#)Additional Information: [full citation](#), [abstract](#), [citations](#)

We describe a model that supports the functional partitioning of a system-level functional specification among hardware and software components. The model includes only the information needed by partitioning, and thus can be communicated freely and generated automatically. Based on characteristics of several real examples, we describe a technique for automatically generating generic model instances, on which partitioning heuristics can be applied and fairly compared. Such comparisons will become ...

### 3 [The Role of Model-Level Transactors and UML in Functional Prototyping of Systems-on-Chip: A Software-Radio Application](#)

Alexandre Chureau, Yvon Savaria, El Mostapha Aboulhamid

March 2005 **Proceedings of the conference on Design, Automation and Test in Europe - Volume 2 DATE '05**

Publisher: IEEE Computer Society

Full text available: [pdf\(173.08 KB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Developing a functional prototype of a system-on-chip provides a unifying vehicle for model validation and system refinement. Keeping the prototype executable across several abstraction levels, clock domains and design tools is a key requirement to effective prototyping. This paper presents how model-level transactors address design heterogeneity by unifying event-based and cycle-based worlds from specification to

implementation. Transactors are used to build a functional prototype of a software ...

#### 4 A pivotal function approach to estimation and prediction for a model of software reliability

Kelly J. Dotson

February 1987 **Proceedings of the 15th annual conference on Computer Science**

**Publisher:** ACM Press

Full text available:  [pdf\(401.43 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper establishes the utility of pivotal functions for assessing the reliability of software that has undergone a testing and development process. Confidence limits for reliability and prediction limits for the time to next failure are derived based on Moranda's geometric deuthropication model. The effect of departures from the assumed exponentially distributed interfailure times in this model is investigated by simulating Pareto, Weibull, and gamma distributed interfailure times. As a ...

#### 5 An empirical validation of software cost estimation models

Chris F Kemerer

May 1987 **Communications of the ACM**, Volume 30 Issue 5

**Publisher:** ACM Press

Full text available:  [pdf\(1.46 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citing](#)s, [index terms](#), [review](#)

Practitioners have expressed concern over their inability to accurately estimate costs associated with software development. This concern has become even more pressing as costs associated with development continue to increase. As a result, considerable research attention is now directed at gaining a better understanding of the software-development process as well as constructing and evaluating software cost estimating tools. This paper evaluates four of the most popular algorithmic models u ...

#### 6 An integrated approach to system modeling using a synthesis of artificial intelligence, software engineering and simulation methodologies

Paul A. Fishwick

October 1992 **ACM Transactions on Modeling and Computer Simulation (TOMACS)**, Volume 2 Issue 4

**Publisher:** ACM Press

Full text available:  [pdf\(1.58 MB\)](#) Additional Information: [full citation](#), [references](#), [citing](#)s, [index terms](#), [review](#)

#### 7 Time weaver: a software-through-models framework for embedded real-time systems

Dionisio de Niz, Raj Rajkumar

June 2003 **ACM SIGPLAN Notices , Proceedings of the 2003 ACM SIGPLAN conference on Language, compiler, and tool for embedded systems LCTES '03**, Volume 38 Issue 7

**Publisher:** ACM Press

Full text available:  [pdf\(467.76 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citing](#)s, [index terms](#)

Embedded real-time systems are deployed in a wide range of application domains including transportation systems, automated manufacturing, process control, defense, aerospace, and telecommunications. These systems must satisfy not only logical functional requirements but also *para-functional* properties such as timeliness, Quality of Service (QoS) and reliability. The cross-cutting behaviors imposed by these para-functional properties and dependencies on operational characteristics (e.g. ha ...

**Keywords:** couplers, embedded, real-time, semantic dimension, semantic separation, software-through-models

**8** Model refinement for hardware-software codesign

Jie Gong, Daniel D. Gajski, Smita Bakshi

January 1997 **ACM Transactions on Design Automation of Electronic Systems (TODAES)**, Volume 2 Issue 1**Publisher:** ACM PressFull text available: [pdf\(436.53 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

Hardware-software codesign, which implements a given specification with a set of system components such as ASICs and processors, includes several key tasks such as system component allocation, functional partitioning, quality metrics estimation, and model refinement. In this work, we focus on the model refinement task which transforms a specification from an original functional model to a refined implementation model. First, we categorize several commonly used implementation models and desc ...

**Keywords:** functional model, implementation model, model refinement, software-hardware codesign

**9** High-level software energy macro-modeling

T. K. Tan, A. K. Raghunathan, G. Lakishminarayana, N. K. Jha

June 2001 **Proceedings of the 38th conference on Design automation****Publisher:** ACM PressFull text available: [pdf\(205.86 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper presents an efficient and accurate high-level software energy estimation methodology using the concept of characterization-based macro-modeling. In characterization-based macro-modeling, a function or sub-routine is characterized using an accurate lower-level energy model of the target processor, to construct a macro-model that relates the energy consumed in the function under consideration to various parameters that can be easily observed or calculated from a high-level program ...

**10** A codesign virtual machine for hierarchical, balanced hardware/software system modeling

JoAnn M. Paul, Simon N. Peffers, Donald E. Thomas

June 2000 **Proceedings of the 37th conference on Design automation****Publisher:** ACM PressFull text available: [pdf\(164.21 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The Codesign Virtual Machine (CVM) is introduced as a next generation system modeling semantic. The CVM permits unrestricted system-wide software and hardware behaviors to be designed to a single scheduling semantic by resolving time-based (resource) and time-independent (state-interleaved) models of computation. CVM hierarchical relationships of bus and clock state domains provide a means of exploring hardware/software scheduling trade-offs to a consistent semantic model using top-down, bo ...

**11** Megamodeling and interoperability: Elements for the definition of a model of software engineering

Vincent Rosener, Denis Avrillionis

May 2006 **Proceedings of the 2006 international workshop on Global integrated model management GaMMa '06****Publisher:** ACM PressFull text available: [pdf\(129.08 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

For year now we have been working on the definition of something we could call a "model of software engineering". Although this might sound very ambitious, this work is driven by concrete objectives and the results are applied in day to day work in the context of our consulting and software development projects. It is obviously impossible to present the full scope of our work in a few pages. We see GaMMa 2006 as an opportunity to expose

our ideas and share our experience with people thinking and ...

**Keywords:** design science, models, software construction, systemic theory

12 Session 60: bounded model checking and equivalence verification: Early cutpoint insertion for high-level software vs. RTL formal combinational equivalence verification



Xiushan Feng, Alan J. Hu

July 2006 **Proceedings of the 43rd annual conference on Design automation DAC '06**

**Publisher:** ACM Press

Full text available: pdf(566.16 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Ever-growing complexity is forcing design to move above RTL. For example, golden functional models are being written as clearly as possible in software and not optimized or intended for synthesis. Thus, equivalence verification between the high-level software functional model and the RTL is needed. The typical approach is to convert the high-level software into RTL or gate-level hardware, via software path enumeration, symbolic execution, or high-level synthesis techniques, and then use hardware ...

**Keywords:** RTL, cutpoints, formal equivalence checking, software

13 Towards a model of cognitive process in logical design: comparing object-oriented and traditional functional decomposition software methodologies



Jinwoo Kim, F. Javier Lerch

June 1992 **Proceedings of the SIGCHI conference on Human factors in computing systems**

**Publisher:** ACM Press

Full text available: pdf(1.14 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This study aims at developing and empirically testing hypotheses about professional designers' cognitive activities when using object-oriented methodology (OOD) versus using traditional functional decomposition methodologies (TFD). Our preliminary results indicate that OOD may achieve substantial time savings over TFD in logical design. The verbal protocols from a pilot study show that OOD may achieve these time savings: 1) by simplifying rule induction processes used in functional decompos ...

**Keywords:** functional decomposition, mental simulation, object-oriented design, rule induction

14 Parameter value computation by least square method and evaluation of software availability and reliability at service-operation by the hyper-geometric distribution software reliability growth model (HGDM)

Raymond Jacoby, Yoshihiro Tohma

May 1991 **Proceedings of the 13th international conference on Software engineering**

**Publisher:** IEEE Computer Society Press

Full text available: pdf(1.04 MB) Additional Information: [full citation](#), [references](#), [citations](#)

15 On the hardware-software partitioning problem: System modeling and partitioning techniques



Marisa López-Vallejo, Juan Carlos López

July 2003 **ACM Transactions on Design Automation of Electronic Systems (TODAES)**, Volume 8 Issue 3

**Publisher:** ACM Press

Full text available: pdf(409.78 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)



This paper presents an in-depth study of several system partitioning procedures. It is based on the appropriate formulation of a general system model, being therefore independent of either the particular co-design problem or the specific partitioning procedure. The techniques under study are a knowledge-based system and three classical circuit partitioning algorithms (Simulated Annealing, Kernighan&Lin and Hierarchical Clustering). The former has been entirely proposed by the authors in previous ...

**Keywords:** Hardware-software co-design, clustering, cost functions, expert systems, fuzzy logic, general optimization procedures, hardware-software partitioning, system modeling

16 A Model for the Coanalysis of Hardware and Software Architectures

Fred Rose, Todd Carpenter, Sanjaya Kumar, John Shackleton, Todd Steeves Honeywell  
March 1996 **Proceedings of the 4th International Workshop on Hardware/Software Co-Design**

**Publisher:** IEEE Computer Society

Full text available:  pdf(1.13 MB)  Additional Information: [full citation](#), [abstract](#)  
[Publisher Site](#)

Successful multiprocessor system design for complex real-time embedded applications requires powerful and comprehensive, yet cost-effective, productive, and maintainable modeling. The multi-disciplinary, VHDL-based modeling library developed by the Honeywell Technology Center places heavy emphasis on multiprocessing and distributed communications. These models focus on detailed hardware performance analysis along with multiple abstraction levels for software representation and evaluation. This ...

**Keywords:** VHDL, performance modeling, hardware/software codesign, RASSP


17 Models and Measurements for Quality Assessment of Software

 Siba N. Mohanty  
September 1979 **ACM Computing Surveys (CSUR)**, Volume 11 Issue 3

**Publisher:** ACM Press

Full text available:  pdf(1.95 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

18 System synthesis utilizing a layered functional model

 Ingo Sander, Axel Jantsch  
March 1999 **Proceedings of the seventh international workshop on Hardware/software codesign**

**Publisher:** ACM Press

Full text available:  pdf(586.77 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)


19 A hierarchical and functional software process description and its enactment

 Takuya Katayama  
May 1989 **Proceedings of the 11th international conference on Software engineering**

**Publisher:** ACM Press

Full text available:  pdf(958.87 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

20 An integrated cost model for software reuse

 A. Mili, S. Fowler Chmiel, R. Gottumukkala, L. Zhang  
June 2000 **Proceedings of the 22nd international conference on Software engineering**

**Publisher:** ACM Press

Full text available:  pdf(226.57 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Several cost models have been proposed in the past for estimating, predicting, and analyzing the costs of software reuse. In this paper we analyze existing models, explain their variance, and propose a tool-supported comprehensive model that encompasses most of the existing models.

**Keywords:** COCOMO, application engineering, component engineering, domain engineering, return on investment, software cost estimation, software reuse

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